National Institute of Environmental Health Sciences

Climate change-related health impacts in the Hindu Kush-Himalayas

Author(s): Ebi KL, Woodruff R, Von Hildebrand A, Corvalan C
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Abstract:

Our goal was to identify the climate change-related health risks and vulnerable populations specific to the mountainous regions of the Hindu Kush-Himalayas. We reviewed published information of the likely health consequences of climate change in mountain regions, especially the findings of a workshop for countries in the Hindu Kush-Himalaya region, organized by the World Health Organization, World Meteorological Organization, United Nations Environment Programme, and United Nations Development Programme. The main climate-related risks in the Hindu Kush-Himalaya region include the expansion of vector-borne diseases as pathogens take advantage of new habitats in altitudes that were formerly unsuitable. Diarrheal diseases could become more prevalent with changes in freshwater quality and availability. More extreme rainfall events are likely to increase the number of floods and landslides with consequent death and injuries. A unique risk is sudden floods from high glacier lakes, which cause substantial destruction and loss of life. Because glaciers are the main source of freshwater for upland regions and downstream countries, the long-term reduction in annual glacier snowmelt is expected to heighten existing water insecurity in these areas. Climate change also is bringing some benefits to mountain populations, including milder winters and longer growing seasons. Populations in mountain regions have unique combinations of vulnerabilities to climate change. The extent of the health impacts experienced will depend on the effectiveness of public health efforts to identify and implement low-cost preparedness and response measures, and on the speed at which emissions of greenhouse gas emissions can be reduced. © 2007 Ecohealth Journal Consortium.

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Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Ecosystem Changes, Extreme Weather Event, Food/Water Quality, Food/Water Security, Food/Water Security, Glacier/Snow Melt, Precipitation, Solar Radiation, Temperature

Extreme Weather Event: Drought, Flooding, Landslides, Wildfires

Food/Water Security: Agricultural Productivity, Food Access/Distribution, Nutritional Quality

Temperature: Extreme Heat, Fluctuations

Geographic Feature:

resource focuses on specific type of geography

Freshwater, Mountain, Rural, Other Geographical Feature

Other Geographical Feature : Glaciers

Geographic Location: ☑

resource focuses on specific location

Non-United States

Non-United States: Asia

Asian Region/Country: Other Asian Region

Other Asian Region: Hindu Kush-Himalayas

Health Impact: ☑

specification of health effect or disease related to climate change exposure

Infectious Disease, Injury, Morbidity/Mortality

Infectious Disease: Foodborne/Waterborne Disease, Vectorborne Disease, Zoonotic Disease

Foodborne/Waterborne Disease: Other Diarrheal Disease

Vectorborne Disease: Fly-borne Disease, General Vectorborne, Mosquito-borne Disease

Fly-borne Disease: Leishmaniasis

Mosquito-borne Disease: Dengue, Malaria, Viral Encephalitis

Zoonotic Disease: General Zoonotic Disease

Medical Community Engagement: ☑

resource focus on how the medical community discusses or acts to address health impacts of climate change

A focus of content

Mitigation/Adaptation: ☑

mitigation or adaptation strategy is a focus of resource

Adaptation

Model/Methodology: ☑

type of model used or methodology development is a focus of resource

Exposure Change Prediction

Resource Type: ☑

format or standard characteristic of resource

Review

Resilience: ☑

capacity of an individual, community, or institution to dynamically and effectively respond or adapt to shifting climate impact circumstances while continuing to function

A focus of content

Timescale: ☑

time period studied

Long-Term (>50 years)

Vulnerability/Impact Assessment: ☑

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content